PATENT

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Applicant:	David C. Gelvin	Examiner:	Jacobs, Lashonda T.
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Sylvia Cotton

Name: Sylvia Cotton

APPEAL BRIEF

MAIL STOP: APPEAL BRIEF - PATENTS
Commissioner for Patents
Post Office Box 1450
Alexandria, Virginia 22313-1450

Sir:

This Brief is in furtherance of the Notice of Pre-Appeal Brief in this case, timely filed on May 31, 2007. Applicant hereby appeals to the Board from the Decision of the Pre-Appeal Brief Review Panel mailed March 3, 2008, responsive to Applicant's Pre-Appeal Brief Review Request filed with the Notice of Appeal on May 31, 2007, following the final rejections in the Final Office Action mailed February 5, 2007, of the pending claims (i.e., claims 1-9, 12-15, 17, 22-67, 69-74, and 77-85).

The Commissioner is hereby authorized to charge the requisite fee set forth in §41.20(b)(2) in the amount of $510.00 to Deposit Account 50-2638.

This Brief is accompanied by authorization to charge the requisite fee for a two-month extension of time under 37 CFR §1.136(a) of $460.00 to reset the period for filing this Brief so as to expire on June 3, 2008.

Note that this Brief is also accompanied by an Amendment after Appeal under 37 CFR §41.33(b) to cancel independent claim 76 without prejudice.

I. REAL PARTY IN INTEREST

The real party in interest in this appeal is Borgia/Cummins, LLC.

II. RELATED APPEALS AND INTERFERENCES

Applicant is not aware of any appeals or interferences that will directly affect, or be directly affected by, or have a bearing on the Board's decision in this appeal.

III. STATUS OF CLAIMS

Claims on appeal are claims 1-9, 12-15, 17, 22-67, 69-74, 77-85, as set forth in Appendix B of this Brief. Claims 1, 77, and 85 are the only pending independent claims.

Claims 10, 11, 16, 18-21, 68, and 75 have been previously cancelled.

Claim 76 is canceled by the Amendment after Appeal under 37 CFR §41.33(b) that accompanies this Brief.

Claims 1-9, 12-15, 17, 22-67, 69-74, and 77-85 stand finally rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Jones et al. ("Jones") (U.S. Patent No. 6,430,164) in view of Lu et al. ("Lu") (U.S. Patent No. 5,734,699) in the Final Office Action mailed February 5, 2007.

IV. STATUS OF AMENDMENTS

No amendments have been filed subsequent to final rejection in the Final Office Action of February 5, 2007.

V. SUMMARY OF CLAIMED SUBJECT MATTER

As described in independent claim 1, one embodiment describes an internetwork having a plurality of network elements including at least one gateway node and at least one local area network coupled among at least one peripheral electronic device. Functions of the plurality of network elements are remotely controllable, and the at least one gateway node manipulates node information including configuration and security information to provide secure interoperability among the plurality of network elements and the at least one peripheral electronic device. The gateway node comprises at least one interface port, at least one real-time interface processor (RTIP), and at least one application processor. The at least one RTIP performs real-time operations and the at least one application processor performs high level processing functions. The gateway node provides at least one of data processing, data storage, access control, protocol translation, security including service discovery and device authentication, and network control, and the gateway node controls remote access to the mobile internetwork in response to intermittent external communications.

As described in independent claim 77, one embodiment describes a network having a plurality of network elements including a gateway node. The network further includes a local area network coupled to the gateway node, and at least one peripheral electronic device coupled for communication with the gateway node using the local area network. The gateway node includes at least one interface port, at least one real-time interface processor (RTIP), and at least one application processor. The at least one RTIP performs real-time operations, the at least one application processor performs high level processing functions, and the at least one RTIP is coupled between the at least one interface port and the at least one application processor.

As described in independent claim 85, one embodiment describes a gateway node configured to couple to a plurality of network elements that includes a local area network and at least one peripheral electronic device coupled to the local area network. The gateway node includes at least one interface port to receive data packets, at least one real-time interface processor operable to perform real-time operations on the data packets, and at least one application processor operable to perform high level processing functions. The at least one real-

time interface processor is coupled between the at least one interface port and the at least one application processor.

Various details regarding the above embodiments of the claimed subject matter are described in the specification, for example, in Fig. 3, which illustrates an internetwork architecture 300 including a gateway 302 that links external networks (also see specification page 14, line 19, to page 15, line 4). In addition, Fig. 10 illustrates exemplary real-time interface processor 1002 and application processor 1004 in a gateway 1000 having interface ports 1006, 1008, and 1010.

Additionally, the specification at page 30, line 1, to page 32, line 21, describes the structure and functionality of an exemplary gateway 1000. The specification at page 42, line 23, to page 43, line 15, describes additional information regarding exemplary real-time interface processor 1702 and application processor 1710. The specification at page 50, lines 14-15, also describes, for example, separating real time and non-real time processing. Further, the specification describes the exemplary remote programmability of sensor nodes at page 11, lines 15-21.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Applicant respectfully requests review of the following grounds of rejection made by the Examiner:

A. Rejection of claims 1-9, 12-15, 17, 22-67, 69-74, and 77-85 under 35 U.S.C. §103(a) as allegedly unpatentable over Jones et al. ("Jones") (U.S. Patent No. 6,430,164) in view of Lu et al. ("Lu") (U.S. Patent No. 5,734,699).

VII. ARGUMENT

A. Rejection under 35 U.S.C. §103(a) over Jones et al. ("Jones") (U.S. Patent No. 6,430,164) in view of Lu et al. ("Lu") (U.S. Patent No. 5,734,699).

Claims 1-9, 12-15, 17, 22-67, and 69-74

Applicant's independent claim 1 recites "at least one real-time interface processor (RTIP), and at least one application processor, wherein the at least one RTIP performs real-time operations and the at least one application processor performs high level processing functions". The Examiner cites secondary reference Lu as allegedly showing a real-time interface processor (RTIP), and an application processor, wherein the RTIP performs real-time operations and the application processor performs high level processing functions.

Lu is generally directed to a cellular phone system for facilitating communication with mobile station units. Communication is described as conforming to the GSM standard (see, e.g., col. 7, lines 6-10). As an example, the mobile station units transmit and receive data at 8 Kbps or 16 Kbps, which is carried by the phone system in a number of bearer data channels (col. 8, lines 55-63). Fig. 9 of Lu shows a transmission sub-system for processing inbound and outbound information for the mobile station units.

In particular, "TRX module 530 [of Fig. 9] represents a transceiver for processing outgoing data to MS units and incoming data from MS units" (col. 19, lines 60-63). Lu teaches the use of several digital signal processors 557, 559, 561, and 563 operating in parallel to process this inbound and outbound information. This information is transferred at high speed between various modules of Lu's system using TDM bus 522 (see, e.g., col. 19, lines 30-34).

In the section of Lu cited by the Examiner (col. 20, lines 50-62, and col. 21, lines 44-60), a real-time processor (RTP) 554 controls the processing of the digital signal processors (DSPs) 557, 559, 561, and 563 (see Fig. 9). Lu here states that "DSP section 552 includes, for example, four digital signal processor[s] (DSP) 557, 559, 561, and 563 to process 8 TDM time slots per radio channel of traffic" (col. 20, lines 50-53). Lu also states that "Real Time Processor (RTP) 554 provisions and controls DSPs 557, 559, 561, 563 in order to schedule information processing" (col. 21, lines 44-46).

A person of skill in the art would understand Lu as teaching the use of parallel DSPs processing real-time radio communications to and from mobile station units under control of a

real-time processor 554. Lu, when viewed in its overall context, teaches a real-time processor controlling the operation of other processors operating on real-time data.

From a review of the Lu reference, a person of skill in the art would, in the view most favorable to the Examiner's position, only be motivated to incorporate real-time parallel DSP processing into the primary Jones reference. Lu does not teach or suggest the use of an application processor as recited by Applicant.

Even if, for the sake of argument, it were to be assumed that Lu's processor 554 teaches a real-time interface processor, then the Examiner still has not stated or made clear what Lu teaches to be an "application processor" of the gateway node as recited by Applicant's claim 1. When referring to Lu's Fig. 9, the text sections of Lu cited by the Examiner describe real-time processor 554 and several DSPs (557, 559, 561, 563) in parallel. The cited sections describe that real-time processor 554 controls the operation of the parallel DSPs to handle inbound and outbound TDM radio traffic. There are no other processors of Lu's Fig. 9 referred to by the Examiner in the remainder of the Final Office Action. Further, the Advisory Action of May 7, 2007, makes clear that the Examiner is relying upon DSP 559 as showing an "application processor" as recited by Applicant's claim 1.

However, Applicant's independent claim 1 recites that "the at least one application processor performs high level processing functions". A person of skill in the art would understand Lu's DSPs in Fig. 9 as teaching the processing of real-time inbound and outbound radio traffic, and thus teaching away from "high level processing". The Examiner has failed to make any argument that relates the operation of the DSPs in Lu to the "high level processing functions" as recited by Applicant. Accordingly, the Examiner fails to provide an essential element of a prima facie case.

Claims 77, 79, and 80

Applicant's independent claim 77 recites that "the at least one RTIP performs real-time operations" and the "at least one application processor performs high level processing functions". Accordingly, claim 77 is believed allowable for similar reasons as discussed above

for claim 1.

Further, claim 77 recites that "the at least one RTIP is coupled between the at least one interface port and the at least one application processor" (note: claim 77 was added by Applicant's Amendment of October 25, 2006, in response to the Non-Final Action of July 25, 2006). The Examiner's arguments in the Final Office Action of February 5, 2007, fail to address this limitation. Applicant submits that this fails to make a proper prima facie case. Accordingly, this ground of rejection should be withdrawn.

Claim 78

Applicant's dependent claim 78 recites that "data is collected by the gateway node using the at least one interface port". According to the Examiner's argument that Lu's real time processor 554 teaches an "RTIP", the Examiner appears to be taking the position that the coupling to VME bus 520 by processor 554 in Lu's Fig. 9 is the "at least one interface port" recited by Applicant.

However, claim 78 further recites that "the at least one RTIP performs processing to route the data to one of the plurality of network elements". Lu describes that control information is received by processor 554 from VME bus 520 to control the operation of the parallel DSPs (col. 21: lines 54-60). The Examiner fails to argue how this control information is "collected by the gateway node" and how processor 554 "performs processing to route the data" (emphasis added) as recited by Applicant's claim 78. Instead, Lu only describes processor 554 as using the control information to control the operation of the parallel DSPs. Lu further teaches that inbound radio traffic is processed by the parallel DSPs and sent over TDM bus 522, but this radio traffic is not collected from VME bus 520 through processor 554.

Claim 81

Applicant's claim 81 recites that "the at least one application processor hosts an application associated with the bus". The Examiner has again relied upon the identical section of

Lu as used for the claims above (note: this is the only section of Lu that the Examiner has cited throughout the entire Final Office Action). This section of Lu, as discussed above, teaches a real-time processor 554 controlling a group of parallel DSPs handling inbound and outbound radio traffic. There is no mention by Lu in the relied-upon section that one of the DSPs hosts an application associated with the bus. Instead, the DSPs are only described here by Lu as processing TDM time slots.

Claim 82

Applicant's claim 82 recites that "the at least one RTIP passes IP packets through the gateway node under control of the at least one peripheral electronic device". The argument by the Examiner cites incorrect wording from the claim, and thus the Examiner fails to make a prima facie rejection for this claim.

It should be further noted that the cited section of Lu (the same cited section as used above) only describes the real-time processor 554 as controlling the processing of inbound and outbound radio information. Also, a person of skill in the art would read Lu as teaching that the parallel DSPs pass information through the gateway node, rather than the real-time processor 554, which Lu describes as controlling the parallel DSPs. Finally, the Examiner has not identified any peripheral electronic device as controlling passing of packets as recited in claim 82.

Claim 83

Applicant's claim 83 recites that "the at least one application processor is operable to access raw data from the at least one RTIP" (emphasis added). Applicant's specification at page 42, lines 23-31, describes an exemplary access of raw data.

The Examiner has again relied upon the identical section of Lu, which describes that real-time processor 554 controls the parallel DSPs. The Examiner has failed to make any argument as to why one of skill in the art would consider any of the DSPs to be accessing "raw data" from

the real-time processor 554. The failure to make any argument regarding raw data is a failure to present a prima facie case.

Claim 84

Applicant's claim 84 recites that "the real-time operations of the at least one RTIP run below an operating system executed on the at least one application processor". The Examiner yet again relies upon the same section of Lu, which describes real-time processor 554 as controlling the parallel DSPs. The Examiner does not provide any argument as to why one of skill in the art would consider processor 554 to "run below an operating system executed" on any of the parallel DSPs (the Examiner alleges the DSPs show an application processor of the gateway node) when it is processor 554 that Lu describes as being the controlling processor. Accordingly, the Examiner has again failed to present a prima facie case.

Claim 85

Applicant's independent claim 85 recites "at least one real-time interface processor operable to perform real-time operations on the data packets" and "at least one application processor operable to perform high level processing functions". Accordingly, claim 85 is believed allowable for similar reasons as discussed above for claim 1.

Claim 85 further recites that "the at least one real-time interface processor is coupled between the at least one interface port and the at least one application processor" (note: claim 85 was added by Applicant's Amendment of October 25, 2006, in response to the Non-Final Action of July 25, 2006). The Examiner's arguments in the Final Office Action of February 5, 2007, fail to address this limitation. Applicant again submits that this fails to make a proper prima facie case. Accordingly, this ground of rejection should be withdrawn.

Accordingly, in light of the foregoing remarks it is submitted that Applicant's claims on appeal patentably distinguish over the prior art of record. Accordingly, reconsideration and withdrawal of the Examiner's grounds of final rejection are respectfully requested.

VIII. CLAIMS APPENDIX

A complete listing of the claims involved in this appeal is attached hereto as Appendix B.

IX. EVIDENCE APPENDIX

Although Applicant has provided Appendix C in this brief for Evidence, Appendix C is intentionally left blank.

X. RELATED PROCEEDINGS APPENDIX

Applicant is not aware of any relevant related proceedings.

XI. CONCLUSION

The Examiner has failed to show in the cited prior art where one may find support for the Examiner's rejections of the pending claims on appeal. The above rejections are respectfully traversed, in light of the arguments, points and authorities presented above.

Accordingly, the allowance of all claims on appeal is respectfully solicited.

The Commissioner is authorized to charge any additional fees associated with this filing, or credit any overpayment, to Deposit Account No. 50-2638. If an extension of time is required, this should be considered a petition therefor.

Respectfully submitted,

Date: May 27, 2008

Bruce T. Neel
Reg. No. 37,406

Customer Number 33717
GREENBERG TRAURIG, LLP
2450 Colorado Avenue, Suite 400E
Santa Monica, CA 90404
Phone: (602) 445-8339
Fax: (602) 445-8100
E-mail: neelb@gtlaw.com

Attachments:

Appendix A: Related Appeals and Interferences
Appendix B: Claims on Appeal
Appendix C: Evidence
Appendix D: Related Proceedings

APPENDIX A

Related Appeals and Interferences

None.

APPENDIX B

Claims on Appeal

Claim 1 (previously presented) A mobile internetwork comprising a plurality of network elements including at least one gateway node and at least one local area network coupled among at least one peripheral electronic device, wherein functions of the plurality of network elements are remotely controllable, wherein the at least one gateway node manipulates node information including configuration and security information to provide secure interoperability among the plurality of network elements and the at least one peripheral electronic device, wherein the gateway node comprises at least one interface port, at least one real-time interface processor (RTIP), and at least one application processor, wherein the at least one RTIP performs real-time operations and the at least one application processor performs high level processing functions, wherein the gateway node provides at least one of data processing, data storage, access control, protocol translation, security including service discovery and device authentication, and network control, wherein the gateway node controls remote access to the mobile internetwork in response to intermittent external communications.

Claim 2 (previously presented) The mobile internetwork of claim 1, wherein the at least one local area network comprises at least one of an Original Equipment Manufacturer (OEM) bus, an Automotive Multimedia Interface Consortium (AMI-C) bus, at least one external network, and at least one local development network.

Claim 3 (previously presented) The mobile internetwork of claim 2, wherein the at least one local development network accesses the at least one gateway node for the performance of application upgrades, diagnostics, and programming.

Claim 4 (previously presented) The mobile internetwork of claim 2, wherein the at least one local development network supports manipulation and transfer of entertainment software, wherein the entertainment software comprises at least one entertainment feature including video, audio, movies, television shows, music, games, and simulations.

Claim 5 (previously presented) The mobile internetwork of claim 1, wherein the at least one vehicle bus comprises at least one legacy automotive bus including at least one of Audio Control Protocol (ACP) buses and Standard Corporate Protocol (SCP) buses.

Claim 6 (previously presented) The mobile internetwork of claim 1, wherein the at least one peripheral electronic device comprises at least one device coupled to at least one OEM bus, wherein the device includes at least one of climate control devices, actuator devices, position location devices, Global Positioning System (GPS) devices, communication devices, cellular telephony devices, processing devices, diagnostic devices, modems, video devices, audio devices, multimedia devices, electronic game devices, sensor devices, switch devices, and device subnetworks.

Claim 7 (previously presented) The mobile internetwork of claim 1, wherein the at least one peripheral electronic device comprises at least one device coupled to at least one AMI-C bus including communication devices, position location devices, GPS devices, communication devices, position location devices, processing devices, modems, video devices, audio devices, multimedia devices, electronic game devices, personal digital assistants (PDAs), and wireless local area network (LAN) devices.

Claim 8 (previously presented) The mobile internetwork of claim 1, wherein the at least one gateway node comprises at least one interface port that is at least one of Intelligent Data Bus (IDB-C) ports, MOST ports, Institute of Electrical and Electronics Engineers (IEEE) 1394 ports, On-Board Diagnostic-II (OBD-II) ports, Bluetooth ports, Personal Communications Service (PCS) ports, Global System for Mobile Communications (GSM) ports, and Ethernet ports.

Claim 9 (previously presented) The mobile internetwork of claim 1, wherein the functions are hosted on a central network element, wherein the functions are distributed among the plurality of network elements in response to a coupling of additional peripheral electronic devices to the at least one vehicle bus.

Claims 10 and 11 (canceled).

Claim 12 (previously presented) The mobile internetwork of claim 1, wherein the at least one gateway node functions as an Internet Protocol (IP) router, wherein the at least one RTIP comprises a high-speed bus controlled by at least one coupled device.

Claim 13 (previously presented) The mobile internetwork of claim 1, wherein the at least one interface port has at least one function that includes at least one of a tag, a bridge, and an interface.

Claim 14 (previously presented) The mobile internetwork of claim 1, wherein the at least one interface port includes at least one of wired communication ports and wireless communication ports.

Claim 15 (previously presented) The mobile internetwork of claim 1, wherein the at least one gateway node includes a first gateway coupled to a second gateway.

Claim 16 (canceled).

Claim 17 (previously presented) The mobile internetwork of claim 1, wherein the at least one gateway node couples a first vehicle bus and a second vehicle bus, wherein the at least one interface port couples the at least one vehicle bus to the at least one peripheral electronic device.

Claims 18-21 (canceled).

Claim 22 (previously presented) The mobile internetwork of claim 1, wherein the at least one gateway node comprises at least one hybrid switch, wherein the at least one hybrid switch includes at least one interface port coupled among at least one switch of a first speed and at least one switch of a second speed, wherein each of the at least one switch of a first speed and the at least one switch of a second speed are coupled to at least one port.

Claim 23 (previously presented) The mobile internetwork of claim 22, wherein the at least one hybrid switch distributes at least one switching function among the plurality of network elements of a host vehicle.

Claim 24 (previously presented) The mobile internetwork of claim 22, wherein at least one application of a first type is coupled through the interface port to the at least one switch of a first speed, wherein at least one application of a second type is coupled through the interface port to the at least one switch of a second speed.

Claim 25 (previously presented) The mobile internetwork of claim 1, wherein the at least one gateway node couples to at least one subnetwork, wherein the at least one subnetwork comprises at least one of sensor devices, actuator devices, wired network devices, and wireless network devices.

Claim 26 (previously presented) The mobile internetwork of claim 1, further comprising at least one router that couples to the Internet using at least one bus and at least one communication device, wherein the at least one bus includes at least one of an IEEE 1394 bus, a MOST bus, an IDB-C bus, and an Ethernet bus, wherein the at least one communication device includes at least one of a Bluetooth modem, an IEEE 802.11 radio, and a mobile telephone.

Claim 27 (previously presented) The mobile internetwork of claim 1, wherein the at least one gateway node generates at least one hierarchy of communication alternatives in response to a determined position of a host vehicle, wherein a selected communication alternative is used to communicate with at least one local site.

Claim 28 (previously presented) The mobile internetwork of claim 1, wherein data processing is controlled using at least one processing hierarchy that controls at least one event including at least one of data classifications, data transfers, data queuing, data combining, processing locations, and communications among the plurality of network elements.

Claim 29 (previously presented) The mobile internetwork of claim 1, wherein the functions are distributed among the plurality of network elements.

Claim 30 (previously presented) The mobile internetwork of claim 1, wherein the functions of the at least one gateway node include at least one of data acquisition, data processing, communication management, data routing, data security, programming, node operation, protocol

translation, network management, and interfacing with at least one communication physical layer including cellular telephony, wireline telephone, satellite telephony, packet radio, microwave, optical.

Claim 31 (previously presented) The mobile internetwork of claim 30, wherein data processing functions of the peripheral electronic device are distributed among at least one other processor that includes a processor of the gateway node.

Claim 32 (previously presented) The mobile internetwork of claim 1, wherein the at least one gateway node implements at least one security method that includes at least one of confounder codes, encrypted transmissions, security policy-based communication protocols, blocking coupling with unauthorized devices, and blocking commands from at least one class of device.

Claim 33 (previously presented) The mobile internetwork of claim 32, wherein the at least one security method is implemented in the at least one gateway node and at least one port node.

Claim 34 (previously presented) The mobile internetwork of claim 32, wherein the at least one security method includes blocking denial of service attacks by decoupling at least one interface port through which unauthorized access is attempted and blocking at least one application at the interface port.

Claim 35 (previously presented) The mobile internetwork of claim 32, wherein the at least one security method further includes at least one of a key, a password device, and a security display.

Claim 36 (previously presented) The mobile internetwork of claim 32, wherein the at least one security method further includes a designated authorization port, wherein at least one connector is coupled to the designated authorization port to receive authorization for coupling a device to the plurality of network elements.

Claim 37 (previously presented) The mobile internetwork of claim 1, wherein the plurality of network elements automatically organize in response to the node information, wherein the automatic organizing comprises automatically controlling data transfer, processing, and storage among the plurality of network elements.

Claim 38 (previously presented) The mobile internetwork of claim 1, wherein at least one level of synchronization is supported among different subsets of the plurality of network elements, wherein a first level of synchronization is supported among a first subset of the plurality of network elements, wherein a second level of synchronization is supported among a second subset of the plurality of network elements.

Claim 39 (previously presented) The mobile internetwork of claim 1, wherein the plurality of network elements are self-assembling, wherein search and acquisition modes of the at least one gateway node search for participating ones of the plurality of network elements, wherein a determination is made whether each of the participating ones of the plurality of network elements are permitted to join the internetwork using a message hierarchy, wherein the plurality of network elements are surveyed at random intervals for new nodes and missing nodes.

Claim 40 (previously presented) The mobile internetwork of claim 1, wherein the plurality of network elements are self-assembled into a multi-cluster network, wherein a start node is selected as a base node, wherein the base node communicates an assembly packet throughout the mobile internetwork, wherein information of the assembly packet alternates with each successive communication between directing a node to become a base node of a particular cluster number and directing a node to become a remote node of a particular cluster number, wherein the particular cluster number is incrementally changed with each successive communication of the assembly packet.

Claim 41 (previously presented) The mobile internetwork of claim 1, wherein the gateway node performs service discovery that comprises synchronizing the gateway node, authenticating the gateway node, determining at least one communication mode for the gateway node, and informing the gateway node of resources available among the plurality of network elements.

Claim 42 (previously presented) The mobile internetwork of claim 1, wherein data is collected by the gateway node, wherein at least one operation is performed on the data in response to parameters established by a user, the at least one operation including at least one of classification, routing, processing, storing, and fusing.

Claim 43 (previously presented) The mobile internetwork of claim 42, wherein the data is vehicle diagnostic data, wherein diagnostic operations are performed in response to the data.

Claim 44 (previously presented) The mobile internetwork of claim 42, wherein routing comprises selecting at least one communication type and at least one communication coupling for use in routing the collected data.

Claim 45 (previously presented) The mobile internetwork of claim 42, wherein routing comprises selecting at least one data type for routing, selecting at least one of the plurality of network elements to which to route the selected data, selecting at least one route to the selected network element, and routing the selected at least one data type to the selected at least one of the plurality of network elements.

Claim 46 (previously presented) The mobile internetwork of claim 42, wherein processing comprises selecting at least one data type for processing, selecting at least one processing type, selecting at least one of the network elements to perform the selected processing type, and transferring data of the selected data type to the selected network elements using at least one route through the network.

Claim 47 (previously presented) The mobile internetwork of claim 46, wherein data processed in a plurality of nodes is aggregated for further processing by other nodes.

Claim 48 (previously presented) The mobile internetwork of claim 46, wherein data processed by the gateway node is aggregated for reporting to at least one user.

Claim 49 (previously presented) The mobile internetwork of claim 42, wherein storing comprises selecting at least one data type for storage, selecting at least one storage type, selecting at least one of the network elements to perform the selected storage type, and transferring data of the selected data type to the selected network elements using at least one route through the plurality of network elements.

Claim 50 (previously presented) The mobile internetwork of claim 42, wherein using comprises a first node transmitting at least one query request to at least one other node, wherein

the first node collects data from the at least one other node in response to the at least one query request, and processes the collected data.

Claim 51 (previously presented) The mobile internetwork of claim 1, wherein the plurality of network elements comprise a plurality of application programming interfaces (APIs), wherein the APIs include APIs for at least one of application support, database services, routing, security, network management, and deployment.

Claim 52 (previously presented) The mobile internetwork of claim 51, wherein the APIs for application support, database services, and routing are hosted on at least one gateway node, wherein the APIs for security, network management, and deployment are shared among at least one other gateway node and at least one port node.

Claim 53 (previously presented) The mobile internetwork of claim 51, wherein the plurality of APIs are layered, wherein the plurality of APIs enable distributed resource management by providing network resource information among the plurality of network elements, wherein information transfer among the plurality of network elements is controlled using a synchronism hierarchy established in response to the network resource information.

Claim 54 (previously presented) The mobile internetwork of claim 1, wherein the plurality of network elements support atomic transaction methods.

Claim 55 (previously presented) The mobile internetwork of claim 1, wherein the gateway node includes sensing, processing, communications, and storage devices supporting a plurality of processing and protocol layers.

Claim 56 (previously presented) The mobile internetwork of claim 1, wherein the gateway node supports at least one of wireless communication modes, wired communication modes, and hybrid wired and wireless communication modes.

Claim 57 (previously presented) The mobile internetwork of claim 1, wherein the gateway node is coupled to the at least one remote computer using the plurality of network elements, wherein the plurality of network elements includes at least one of at least one station gateway, at

least one server, at least one repeater, at least one interrogator, and at least one network, wherein the at least one network includes wired networks, wireless networks, and hybrid wired and wireless networks.

Claim 58 (previously presented) The mobile internetwork of claim 57, wherein the at least one network comprises at least one of the Internet, local area networks, wide area networks, metropolitan area networks, and information service stations.

Claim 59 (previously presented) The mobile internetwork of claim 57, wherein the plurality of network elements provides remote accessibility using World Wide Web-based tools to data, code, control, and security functions, wherein data includes signals, wherein code includes signal processing, decision support, and database elements, and wherein control includes operation of the plurality of network elements.

Claim 60 (previously presented) The mobile internetwork of claim 1, wherein the plurality of network elements comprise a plurality of network element sets, wherein the plurality of network element sets are layered.

Claim 61 (previously presented) The mobile internetwork of claim 1, wherein the gateway node comprises a plurality of node types that includes at least one node of a first type and at least one node of a second type, wherein a first network having a first node density is assembled using the at least one node of a first type, wherein a second network having a second node density is assembled using the at least one node of a second type, wherein the second network is overlaid onto the first network.

Claim 62 (previously presented) The mobile internetwork of claim 1, wherein software and data are transferable among the plurality of network elements, wherein the transfer is remotely controllable, wherein the software and the data are downloadable from at least one location selected from a group consisting of storage devices of the plurality of network elements, external storage devices, and remote storage devices.

Claim 63 (previously presented) The mobile internetwork of claim 1, wherein the plurality of

network elements are managed as a distributed and active database using a distributed resource management protocol, wherein the plurality of network elements are reused among different applications, wherein the network elements are used in multiple classes of applications.

Claim 64 (previously presented) The mobile internetwork of claim 1, further comprising at least one database, wherein the at least one database includes at least one of storage devices coupled to at least one of the plurality of network elements and storage devices of the gateway node.

Claim 65 (previously presented) The mobile internetwork of claim 1, wherein at least one coupling among the gateway node and at least one external network supports data transfer among the gateway node of a host vehicle, wherein the data includes vehicle service data, diagnostic data, maintenance history data, security data, electronic mail, and entertainment software.

Claim 66 (previously presented) The mobile internetwork of claim 1, wherein at least one coupling among the at least one peripheral electronic device and at least one external network supports data transfer among the gateway node of a host vehicle, wherein the data includes vehicle service data, diagnostic data, maintenance history data, security data, electronic mail, and entertainment software.

Claim 67 (previously presented) The mobile internetwork of claim 1, wherein the gateway node is coupled to at least one diagnostic device of a host vehicle.

Claim 68 (canceled).

Claim 69 (previously presented) The mobile internetwork of claim 1, wherein the gateway node manipulates at least one of vehicle assembly data, vehicle maintenance data, vehicle diagnostics data, vehicle position data, vehicle operations profile data, fleet management data, fleet reliability analysis data, security system data, entertainment system data, and targeted advertising data.

Claim 70 (previously presented) The mobile internetwork of claim 1, wherein at least one subset of the plurality of network elements comprise at least one sensor network, wherein the at

least one subset further includes at least one sensor node, at least one gateway station, at least one server, at least one gateway network, and at least one client computer hosting a World Wide Web browser, wherein the at least one node is configured as the at least one gateway station and the at least one sensor node.

Claim 71 (previously presented) The mobile internetwork of claim 70, wherein the at least one sensor node is coupled among a monitored environment and the at least one client computer, wherein functions of the at least one sensor node are remotely controllable using the at least one client computer, wherein the at least one sensor node provides the node information including node resource cost and message priority to the plurality of network elements, wherein data processing is distributed among the plurality of network elements in response to the node information.

Claim 72 (previously presented) The mobile internetwork of claim 70, wherein at least one redundant communication pathway is established among the plurality of network elements.

Claim 73 (previously presented) The mobile internetwork of claim 70, wherein the at least one gateway station performs at least one of protocol translation, sensor network management, management of transmissions from a remote user, and interfacing with at least one communication physical layer including wired local area networks, packet radio, microwave, optical, wireline telephony, cellular telephony, and satellite telephony.

Claim 74 (previously presented) The mobile internetwork of claim 70, wherein the at least one gateway network includes wired networks, wireless networks, and hybrid wired and wireless networks, wherein the at least one gateway network comprises at least one of the Internet, local area networks, wide area networks, metropolitan area networks, and information service stations.

Claims 75-76 (canceled).

Claim 77 (previously presented) A network comprising a plurality of network elements including:

a gateway node;

a local area network coupled to the gateway node;

at least one peripheral electronic device coupled for communication with the gateway node using the local area network; and

wherein:

the gateway node comprises at least one interface port, at least one real-time interface processor (RTIP), and at least one application processor;

the at least one RTIP performs real-time operations;

the at least one application processor performs high level processing functions; and

the at least one RTIP is coupled between the at least one interface port and the at least one application processor.

Claim 78 (previously presented) The network of claim 77, wherein:

data is collected by the gateway node using the at least one interface port; and

the at least one RTIP performs processing to route the data to one of the plurality of network elements.

Claim 79 (previously presented) The network of claim 77, wherein the at least one interface port is configured to interface with at least one communication physical layer.

Claim 80 (previously presented) The network of claim 77, wherein the at least one RTIP further routes communications received at the at least one interface port to the at least one application processor.

Claim 81 (previously presented) The network of claim 77, further comprising a bus coupled to the gateway node through the at least one interface port, wherein the at least one application processor hosts an application associated with the bus.

Claim 82 (previously presented) The network of claim 81, wherein:

the at least one peripheral electronic device is coupled to the bus; and

the at least one RTIP passes IP packets through the gateway node under control of the at least one peripheral electronic device.

Claim 83 (previously presented) The network of claim 77, wherein the at least one application processor is operable to access raw data from the at least one RTIP.

Claim 84 (previously presented) The network of claim 77, wherein the real-time operations of the at least one RTIP run below an operating system executed on the at least one application processor.

Claim 85 (previously presented) A gateway node configured to couple to a plurality of network elements, wherein the plurality of network elements includes a local area network and at least one peripheral electronic device coupled to the local area network, the gateway node comprising:

at least one interface port to receive data packets;

at least one real-time interface processor operable to perform real-time operations on the data packets; and

at least one application processor operable to perform high level processing functions, wherein the at least one real-time interface processor is coupled between the at least one interface port and the at least one application processor.

APPENDIX C

Evidence

None.

APPENDIX D

Related Proceedings

None.